



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

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D135-1027-243
Job Sheet 190565



Part No: D135-1027-243

Job Qty: 1 pcs

Part Name: MID HEIGHT AFT Crosstube Assembly



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 2/11/19

Job Tracking No:

Due Date: 3/22/19

Created By: Jesse White

Type: Stock

Description: SIOP

Note: D135-1027-243 REV.C IPP REV:A 17.09.08 NEW ISSUE DD VERF:DP IPP REV:B 17.10.24 AS PER DWG
REV.B DD VERF:DP IPP REV:C 18.11.08 AS PER DWG REV.C DD VERF:JFS

Ship Via:

DAS
35
9-89

Chgoon

DAS
21
9-89

See att. Document

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Crosstubes - 1	1 pcs	3/22/19		0.00	0.25	Crosstubes - 1		
							Crosstubes - 2		
							Crosstubes - 3		
							Crosstubes - 4		
110	QC 7	1 pcs	3/22/19		0.00	0.00	QC 7 - 10		
							QC 7 - 13		
							QC 7 - 14		
							QC 7 - 15		
							QC 7 - 17		
							QC 7 - 18		
							QC 7 - 19		
							QC 7 - 2		
							QC 7 - 28		
							QC 7 - 3		
							QC 7 - 30		
							QC 7 - 34		
							QC 7 - 36		
							QC 7 - 37		
							QC 7 - 41		
							QC 7 - 47		
							QC 7 - 48		
							QC 7 - 51		
							QC 7 - 58		
							QC 7 - 59		
							QC 7 - 6		
							QC 7 - 60		
							QC 7 - 9		
							QC 7 - 68		
							QC 7 - 50		
							QC 7 - 67		

As 19-4-6

Plex 2/11/19 12:53 PM dart.white.jesse

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	

Date of Deviation: _____ Disposition: _____ Completed By: _____ Lead hand / Supervisor: _____ QC / QA Coordinator: _____	FAULT CATEGORY ☐ center ☐ e/Defect ☐ iclear Instructions ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread	
	Product Improvement ☐ Process Improvement ☐ Human Factors ☐	
	Mislabeled ☐	
	Other/Details: _____	

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 CANADA
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 Email: sales@dartaero.com
 www.dartaerospace.com

Container No: S171963



Part: D135 - 1027 - 243

Job No: 190565

Serial No/Batch: S171963

Revision: C

Inspector:

Exp Date:

Instructions: TC STC SH18 - 49 Issue d by FAA-ETC SR04276NY dated 18/11/21, E

120 Handfinish - 4-1-Assembly-
B4B 1
pcs

3/22/19 0.00 0.25 Handfinish - 4 - 1 - B4B

AS 19-4-6

Handfinish - 4 - 10 -
B4B

Handfinish - 4 - 11 -
B4B

Handfinish - 4 - 12 -
B4B

Handfinish - 4 - 13 -
B4B

Handfinish - 4 - 14 -
B4B

Handfinish - 4 - 15 -
B4B

Handfinish - 4 - 2 - B4B

Handfinish - 4 - 3 - B4B

Handfinish - 4 - 4 - B4B

Handfinish - 4 - 5 - B4B

Handfinish - 4 - 6 - B4B

Handfinish - 4 - 7 - B4B

Handfinish - 4 - 8 - B4B

Handfinish - 4 - 9 - B4B

140 Spray Paint - 2 - B4B 1
pcs

3/22/19 0.00 1.00

Spray Paint - 1 - B4B

Spray Paint - 2 - B4B

Spray Paint - 3 - B4B

Spray Paint - 4 - B4B

150 QC 14 1
pcs

3/22/19 0.00 0.00

QC 14 - 15

QC 14 - 2

QC 14 - 34

QC 14 - 41

QC 14 - 51

QC 14 - 58

QC 14 - 59

QC 14 - 9

QC 14 - 68

AS 19-4-8

155 Handfinish - 4-2-Assembly-
B4B 1
pcs

3/22/19 0.00 0.67

Handfinish - 4 - 1 - B4B

Handfinish - 4 - 10 -
B4B

Handfinish - 4 - 11 -
B4B

Handfinish - 4 - 12 -
B4B

Handfinish - 4 - 13 -
B4B

Handfinish - 4 - 14 -
B4B

Handfinish - 4 - 15 -
B4B

Handfinish - 4 - 2 - B4B

Handfinish - 4 - 3 - B4B

Handfinish - 4 - 4 - B4B

Handfinish - 4 - 5 - B4B

Handfinish - 4 - 6 - B4B

Handfinish - 4 - 7 - B4B

Handfinish - 4 - 8 - B4B

Handfinish - 4 - 9 - B4B

AS 19-4-11

160 QC 7 1
Qc5 pcs

3/22/19 0.00 0.00

QC 7 - 10

QC 7 - 13

QC 7 - 14

QC 7 - 15

QC 7 - 17

QC 7 - 18

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

				QC 7 - 19	
				QC 7 - 2	
				QC 7 - 28	
				QC 7 - 3	
				QC 7 - 30	
				QC 7 - 34	
				QC 7 - 36	
				QC 7 - 37	
				QC 7 - 41	
				QC 7 - 47	
				QC 7 - 48	
				QC 7 - 51	
				QC 7 - 58	
				QC 7 - 59	
				QC 7 - 6	
				QC 7 - 60	
				QC 7 - 9	
				QC 7 - 68	DAS APR 25 2019 68
				QC 7 - 50	9-89
				QC 7 - 67	
170	Packaging 3-1 - Stock - B4B	1 pcs	3/22/19	0.00 0.00	Packaging 3 - 1 - B4B
					Packaging 3 - 2 - B4B
					Packaging 3 - 3 - B4B
					Packaging 3 - 4 - B4B
					Packaging 3 - 5 - B4B
					Packaging 3 - 6 - B4B
					Packaging 3 - 7 - B4B
					Packaging 3 - 8 - B4B
					Packaging 3 - 9 - B4B
					Packaging 3 - 10 - B4B
					Packaging 3 - 11 - B4B
					Packaging 3 - 12 - B4B
					Packaging 3 - 13 - B4B
					Packaging 3 - 14 - B4B
					Packaging 3 - 15 - B4B
					Packaging 3 - 16 - B4B
					Packaging 3 - 17 - B4B
					Packaging 3 - 18 - B4B
					Packaging 3 - 19 - B4B
					Packaging 3 - 20 - B4B
					Packaging 3 - 21 - B4B
					Packaging 3 - 22 - B4B
					Packaging 3 - 23 - B4B
					Packaging 3 - 24 - B4B
					Packaging 3 - 25 - B4B
					Packaging 3 - 26 - B4B
					Packaging 3 - 27 - B4B
					Packaging 3 - 28 - B4B
					Packaging 3 - 29 - B4B
					Packaging 3 - 30 - B4B
					Packaging 3 - 31 - B4B
					Packaging 3 - 32 - B4B
					Packaging 3 - 33 - B4B
					Packaging 3 - 34 - B4B
					Packaging 3 - 35 - B4B
180	QC 21 - SA	1 pcs	3/22/19	0.00 0.00	QC 21 - SA - 21
					QC 21 - SA - 70
					QC 21 - SA - 53

Part Op 100 - (Chemical Conversion Coat per QSI005 4.1), ***PRIOR TO CHEMICAL CONVERSION*** SCRIBE DART P/N AND

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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

Descriptions: B/N ON INSIDE OF CUFF PER QSI 044 6.4

110 - (QC7-Inspect Chemical Conversion Coat)**120** - (Assemble as per dwg), INSTALL THREADED ROD AS PER DWG AND APPLY LOCKTITE 263 (NOTE 9) AND SEAL BETWEEN THE NUT AND CROSSTUBE USING SEALANT(NOTE10) (Process 5146139 exp 10/19)**140** - (Spray Paint / NDT Room), ***MASK PRIOR TO PRIME AND PAINT AS PER NOTE11, BOTH ENDS*** 1- PRIME INSIDE AND OUTSIDE PER QSI005 4.2.1.3.3 (FLOAT SKIDTUBE PRIMER) BATCH: 5152590 2- PAINT OUTSIDE SURFACE AS PER QSI005 4.2.2.4 (FLOAT SKIDTUBE PAINT) BATCH: 51558207 3- COAT INSIDE SURFACE WITH LPS PROCYON AS PER DWG, QSI005 4.8 4- AFTER FINISH APPLY A 1 INCH CENTER LINE ON TOP OF CROSSTUBE WITHIN 0.1" OF CENTERLINE QSI 044 6.1(SEE NOTE 12 AND 13)**150** - (QC14- Inspect Spray Paint)**155** - ***CROSSTUBE*** ASSEMBLE AS PER DWG NOTE 13. USE SOAP AND WATER IF NECESSARY AS PER DWG NOTE 14. TORQUE BOLT TO 50-70 IN-LBS AS PER NOTE 13.**160** - QC7-Inspect Chemical Conversion Coat**170** - (Identify as per dwg & Stock Location: _____)**180** - (QC21- Final Inspection - Work Order Release)**Job BOM**

Part / Item	Component Name	Quantity	Operation	Container
D135-1027-253	Mid Height Aft Crosstube	1 pcs (1 ea)	100-Crosstubes - 1	
D5511-1	Threaded Rod	3 pcs (3 ea)	100-Crosstubes - 1	
MS35650-304	Nut	6 Ea (6 ea)	100-Crosstubes - 1	
NAS1149D0363J	Washer	6 Ea (6 ea)	100-Crosstubes - 1	
D5411-1	Rubber Bushing	2 pcs (2 ea)	155-Handfinish - 4-2-Assembly-B4B	
D5412-041	Crosstube Clamp Assembly	2 pcs (2 ea)	155-Handfinish - 4-2-Assembly-B4B	
D5413-1	Crosstube Support	2 pcs (2 ea)	155-Handfinish - 4-2-Assembly-B4B	
D5414-1	Support Bolt	4 pcs (4 ea)	155-Handfinish - 4-2-Assembly-B4B	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Crosstubes - 1	D135-1027-253 5164454 ①		0	0
	D5511-1 5031947 ③		17	0
	MS35650-304 5141378 ⑥		20	0
	NAS1149D0363J 5152662 ⑥		796	0
	D5411-1 5151241 ②		30	0
155-Handfinish - 4-2-Assembly-B4B	D5412-041 5044790 ②		16	0
	D5413-1 5043821 ②		16	0
	D5414-1 5035407 ④		38	0

Part Specifications

Specifications could not be found.

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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

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Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

ENGINEERING CHANGE NOTICE
DART AEROSPACE LTD

Date: 19.04.17	Job No.: SE19-1027-02	ADR Yes/No: Y	ADR Date: 19.03.18	ECN #: 19- 690
Product No.: D135-1027		Created By: MW	Approved By: <i>[Signature]</i>	
Product Name: Crosstubes		Checked By: <i>[Signature]</i>		

Reason for Change:
replaced MS219-32 Campls (Qty (6)) per saddle) with D5720-041 Clamps (Qty (2) per saddle)

Documents Released:
D5720 Rev. A, IIN-D135-1027 Rev. D, ICA-D135-1027 Rev. 1

IF APPLICABLE: NCR: _____ PAR: _____ CAR: _____ CIR: _____ URF: 19-681

PAPERWORK UPDATE ☒ PARTS MUST COMPLY ☒ PREVIOUS PARTS SATISFACTORY ☐

#	Quality Assurance / Customer Support Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Airbus	N			
3	Notify Leonardo	N			
4	Manufacturing Licensing Agreement Update	N			

#	Engineering Actions	Reqd	Resp	Notes	Complete
5	Required Documents/Drawings/Item ID's Under Review (URF)	Y	MW	URF 19.681 active until GHW Fit Check	
6	Update Master Document List (MDL)	Y	MW	MDL-D135-1027 Rev. C <i>not for MW 19.04.18</i>	
7	Update Document Record (DR)	N			
8	Update Product Compatability Matrix	N			
9	Notify TC / FAA of Change (eg. ICA, 8110-3)	N			
10					

#	Document Control Actions	Reqd	Resp	Notes	Complete
11	Move / Update Electronic Files / Design Journal	Y	MG		<i>not 19.04.18</i>
12	Update Product Specification Files (Bluefiles)	Y	MG		<i>not 19.04.18</i>
13	Update Approved/Preliminary Dwg PDF Files	Y	MG		
14	Update Product Development Summary (STC applications)	N			
15	Update QSI 021 (TC/FAA STC) and/or STC Approval List	N			
16	Create/Update Parts / STC Database	Y	MG		<i>not 19.04.18</i>
17	Update / Verify Authorized Release Certificate Database	<i>Y</i>	<i>MG</i>		<i>not 19.04.18</i>
18	Create / Update Change Record Form / Item Card Database	N			
19	Create / Update Packaging Process Plan (PPP)	N			
20	Red Decals required on Packaging Process Plan (PPP)?	N			
21	Update Controlled Supplier Documents (Qpulse) Database	N			
22	Update Grey Project Binder / Electronic Project Folder	Y	MG		<i>not 19.04.18</i>
23	Update D-Part / M-Drawing / DSI / DEO Master Binders	Y	MG		<i>not 19.04.18</i>
24	Update "Royalty Paid to" attribute (Parts sold under Dart USA STC's)	N			
25					

Description / Action:
Update BOMs and Routes for D135-1027-101/-103/-201/-203

ECN Verified & Complete: _____ Date: _____

Change Record

PAGE 1 OF 1

Part Number: D135-1027-243

Description: MID HEIGHT AFT CROSSTUBE ASSEMBLY

[illegible]